

Dairy Herd Improvement Letter

Vol. 53, No. 1

NATIONAL COOPERATIVE
DAIRY HERD IMPROVEMENT
PROGRAM

A dairy recordkeeping plan
for every herd

ARS-NE-60-8

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Dairy Herd Improvement Letter

NATIONAL COOPERATIVE DAIRY HERD IMPROVEMENT PROGRAM PARTICIPATION REPORT, JANUARY 1, 1977 1/

The National Cooperative Dairy Herd Improvement Program (NCDHIP) is a composite of the Official Dairy Herd Improvement (Official DHI), Dairy Herd Improvement Registry (DHIR), Owner-Sampler, Alternate AM-PM, Commercial, Weigh-a-Day-a-Month (WADAM), and other unofficial dairy recordkeeping plans.

On January 1, 1977, the program included 55,659 herds with 3,691,364 cows, or 33.5 percent of the Nation's dairy cow population. The cows were in 1,028 associations with 2,266 supervisors. Official DHI and DHIR included 33,755 herds and 2,581,164 cows, averaging 76.5 cows per herd. DHIR alone included 3,510 herds and 266,252 cows, averaging 75.9 cows per herd. Owner-Sampler included 17,703 herds and 742,348 cows, averaging 41.9 cows per herd. Similar figures for Alternate AM-PM were 2,945 herds, 161,955 cows, and 55.0 cows per herd. The other unofficial plans included 1,256 herds and 205,897 cows, averaging 163.9 cows per herd.

The percentage of the Nation's cows enrolled in Official DHI and DHIR was 23.4, which is up from 22.0 percent in 1976. DHIR alone enrolled 2.4 percent of the Nation's cows. Owner-Sampler cows were 6.7 percent of the Nation's cows in 1976, and Alternate AM-PM increased slightly to 1.5 percent. Enrollment in other unofficial plans comprised 1.9 percent of the Nation's cows, an increase of 0.1 percent from 1976.

Table 1 lists those States that have State Dairy Herd Improvement Associations and those that hold membership in the National Dairy Herd Improvement Association, Inc. (NDHIA). (See map on page 4.) The numbers of associations and supervisors in the program are also listed.

In 1976, two States (Alabama and Montana) formed State DHIA's for a total of 48 States and Puerto Rico as of January 1, 1977. Since January 1, 1976, two States (Idaho and Tennessee) joined NDHIA for a total of 45 States and Puerto Rico as of January 1, 1977. This exemplifies the continuing interest of dairymen in managing the NCDHIP.

1/ Prepared by Gerald J. King, dairy husbandman, and Evelyn F. Myers, statistical assistant, in the Animal Improvement Programs Laboratory, Animal Physiology and Genetics Institute, Northeastern Region, ARS, USDA, Beltsville, Md. 20705, from data supplied by the State Extension Dairymen reporting on the NCDHIP.

Table 2 lists the percentages of all milk cows included in all record-keeping plans. (See map on page 5.) The data show six States (Arizona, California, Hawaii, Nevada, New Mexico, and South Carolina) with more than 50 percent of their cows tested. Eight States follow with between 40 and 49.9 percent of their cows tested; 17 States, between 30 and 39.9 percent; 12 States, between 20 and 29.9 percent; 6 States, between 10 and 19.9 percent; and 1 State still has less than 10 percent of its cows tested.

Table 3 summarizes the data for participating States in each record-keeping plan. Footnote 5 lists 836 herds and 32,491 cows on unofficial recordkeeping plans not under the auspices of the NCDHIP. Two of these plans are vocational agriculture and private testing.

Tables 4 through 8 present details of participation in the various plans. Table 4 shows there are 1,523 more herds and 142,799 more cows on official test on January 1, 1977, than on January 1, 1976. Average herd size increased by 0.8 cow.

Table 5 presents data for the DHIR plan. The DHIR plan has increased by 312 herds and 25,657 cows since January 1, 1976.

Table 6 presents data for the Owner-Sampler plan. The Owner-Sampler plan increased by 404 herds and 15,738 cows since January 1, 1976.

Table 7 presents data for the Alternate AM-PM, Commercial, and WADAM plans. The Alternate AM-PM plan increased by 590 herds and 38,365 cows in 1976. The Commercial plan increased by 4 herds and 8,777 cows, and Weigh-a-Day-a-Month decreased by 44 herds and 4,308 cows.

Table 8 presents data for the Milk-Only-Record plan and all other unofficial plans. The Milk-Only-Record plan increased by 69 herds and 10,636 cows; the all-other-plans group decreased by 1 herd and 3,286 cows.

Table 9 presents a history of Official DHI and DHIR testing in the United States since 1906. The given number of associations and supervisors is for the total NCDHIP. Data for 1906 through 1939 were last included in the Dairy Herd Improvement Letter in Volume 49, No. 4.

Table 10 presents a history of the Owner-Sampler plan from its first tabulation, January 1, 1956.

Table 11 presents a history of other unofficial plans since January 1, 1957, just after the beginning of WADAM testing.

Table 12 lists associations that have 40 percent or more of their dairy cows included in the NCDHIP.

Table 13 is a list of the Extension Dairymen who advise on the NCDHIP in the States. Several of these men have begun work in the States after January 1, 1977, but before this Letter was published.

The increase in NCDHIP enrollment of 2,545 herds and 208,721 cows over January 1, 1976, is remarkable when the enrollment on January 1, 1976, was 484 fewer herds and only 7,041 more cows than on January 1, 1975. Included in the increase are 1,523 herds and 142,799 cows on official test. California increased by 9,201 cows; Minnesota by 7,243; New York by 8,065; Texas by 8,591; and Wisconsin by 21,011. Six States increased between 4,000 and 7,000; 10 States increased between 2,001 and 3,000; and 7 States increased between 1,000 and 2,000.

The Owner-Sampler plan showed a net increase of 404 herds and 15,738 cows. Wisconsin alone increased by 538 herds and 16,279 cows. Other testing increased by 618 herds and 50,184 cows. Large cow gains in this group were: for Alternate AM-PM, New York, 15,787; Pennsylvania, 7,130; and Wisconsin, 11,279; for Commercial, California, 7,994; and for Milk-Only-Record, Florida, 3,322.

The increase in participation in the NCDHIP is testimony to the excellent cooperation and work of local and State DHIA's, NDHIA, and State Extension Dairymen to increase production testing. It also speaks well for the acceptance by dairymen of the main purpose of production testing--improvement of herd management and net income.

JANUARY 1, 1977



PERCENTAGE OF COWS IN PROGRAM, JANUARY 1, 1977



TABLE 1.--STATE DHI'S, MEMBERSHIP IN NDHIA, INC., ASSOCIATIONS, AND SUPERVISORS: THE NATIONAL COOPERATIVE DAIRY HERD IMPROVEMENT PROGRAM, JANUARY 1, 1977

STATE	STATE DHI	MEMBER OF NDHIA, INC.	ASSOCIATIONS	SUPERVISORS	STATE	STATE DHI	MEMBER OF NDHIA, INC.	ASSOCIATIONS	SUPERVISORS
			NO.	NO.				NO.	NO.
ALABAMA-----	YES	NO	19	18	NEW HAMPSHIRE-----	YES	YES	8	16
ALASKA-----	NO	NO	1	1	NEW JERSEY-----	YES	YES	5	15
ARIZONA-----	YES	YES	1	17	NEW MEXICO-----	YES	YES	3	7
ARKANSAS-----	YES	YES	12	14	NEW YORK-----	YES	YES	48	189
CALIFORNIA-----	YES	YES	26	103	NORTH CAROLINA-----	YES	YES	27	43
COLORADO-----	YES	YES	9	20	NORTH DAKOTA-----	YES	YES	15	13
CONNECTICUT-----	YES	YES	6	18	OHIO-----	YES	YES	14	99
DELAWARE-----	YES	YES	3	3	OKLAHOMA-----	YES	YES	14	23
FLORIDA-----	YES	YES	9	15	OREGON-----	YES	YES	13	19
GEORGIA-----	YES	YES	23	26	PENNSYLVANIA-----	YES	YES	59	174
HAWAII-----	YES	NO	1	1	PUERTO RICO-----	YES	YES	1	10
IDAHO-----	YES	YES	22	29	RHODE ISLAND-----	YES	YES	2	2
ILLINOIS-----	YES	YES	46	78	SOUTH CAROLINA-----	YES	YES	10	24
INDIANA-----	YES	YES	45	71	SOUTH DAKOTA-----	YES	YES	16	16
IOWA-----	YES	YES	60	81	TENNESSEE-----	YES	YES	33	42
KANSAS-----	YES	YES	47	60	TEXAS-----	YES	YES	26	47
KENTUCKY-----	YES	YES	44	48	UTAH 1/-----	YES	YES	15	17
LOUISIANA-----	YES	YES	11	29	VERMONT-----	YES	YES	25	51
MAINE-----	YES	YES	14	32	VIRGINIA-----	YES	YES	40	56
MARYLAND-----	YES	YES	11	36	WASHINGTON-----	YES	YES	20	42
MASSACHUSETTS-----	YES	YES	7	17	WEST VIRGINIA-----	YES	YES	11	20
MICHIGAN-----	YES	YES	1	83	WISCONSIN-----	YES	YES	31	244
MINNESOTA-----	YES	YES	73	168	WYOMING-----	YES	YES	4	7
MISSISSIPPI-----	NO	NO	20	26					
MISSOURI-----	YES	YES	39	50					
MONTANA-----	YES	NO	6	9					
NEBRASKA-----	YES	YES	30	33					
NEVADA-----	YES	YES	2	4					
					THE NATIONAL COOPERATIVE DHI PROGRAM-----	49	46	1,028	2,266

1/ BASED ON THE LAST REPORT AVAILABLE.

TABLE 2.--PERCENTAGE OF COWS, BY STATE, INCLUDED IN THE NATIONAL COOPERATIVE DAIRY HERD IMPROVEMENT PROGRAM, JANUARY 1, 1977

STATE	PERCENT	STATE	PERCENT	STATE	PERCENT
HAWAII-----	78.61	GEORGIA-----	37.64	LOUISIANA-----	27.22
NEVADA-----	69.71	PENNSYLVANIA-----	36.83	RHODE ISLAND-----	26.92
NEW MEXICO-----	63.83	NEW YORK-----	36.58	MINNESOTA-----	26.83
ARIZONA-----	56.64	KANSAS-----	36.01	IOWA-----	26.29
CALIFORNIA-----	56.31	ALABAMA-----	35.89	OKLAHOMA-----	23.92
SOUTH CAROLINA-----	55.34	NEW JERSEY-----	34.94	TENNESSEE-----	23.45
VIRGINIA-----	49.82	WEST VIRGINIA-----	34.73	MONTANA-----	23.09
CONNECTICUT-----	48.48	WISCONSIN-----	34.41	MISSISSIPPI-----	21.96
WASHINGTON-----	45.84	MICHIGAN-----	33.94	NEBRASKA-----	21.00
NORTH CAROLINA-----	43.63	VERMONT-----	33.82	FLORIDA-----	19.06
NEW HAMPSHIRE-----	43.38	DELAWARE-----	33.39	TEXAS-----	17.34
UTAH 1/-----	43.33	ILLINOIS-----	32.77	MISSOURI-----	16.84
MAINE-----	42.56	OHIO-----	32.72	SOUTH DAKOTA-----	14.49
OREGON-----	41.06	ALASKA-----	31.53	ARKANSAS-----	12.93
MASSACHUSETTS-----	39.36	INDIANA-----	29.67	KENTUCKY-----	12.89
COLORADO-----	38.97	WYOMING-----	27.67	NORTH DAKOTA-----	6.85
MARYLAND-----	38.90	IDAHO-----	27.47	UNITED STATES-----	33.46

1/ BASED ON THE LAST REPORT AVAILABLE.

TABLE 3.--THE NATIONAL COOPERATIVE DAIRY HERD IMPROVEMENT PROGRAM AND OTHER TESTING PLANS, JANUARY 1, 1977 1/

STATE	OFFICIAL DHI AND DHIR		OWNER-SAMPLER		ALTERNATE AM-PM		OTHER UNOFFICIAL PLANS 2/		ALL TESTING PLANS		U.S. MILK COWS 3/	PCT. IN ALL PLANS
	HERDS	COWS	HERDS	COWS	HERDS	COWS	HERDS	COWS	HERDS	COWS		
ALABAMA-----	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	THOU.	
ALASKA-----	228	27,770	22	3,454	---	---	---	---	250	31,224	87	35.89
ARIZONA-----	1	64	4	360	---	---	1	49	6	473	1.5	31.53
ARKANSAS-----	98	36,313	---	---	---	---	5	2,204	103	38,517	68	56.64
CALIFORNIA-----	121	7,542	46	4,039	---	---	1	56	168	11,637	90	12.93
COLORADO-----	1,128	363,815	36	4,096	---	---	228	87,649	1,392	455,560	809	56.31
CONNECTICUT-----	224	23,287	12	1,622	---	---	17	2,761	253	27,670	71	38.97
DELAWARE-----	304	23,530	24	1,016	---	---	10	1,146	338	25,692	53	48.48
FLORIDA-----	45	3,436	---	---	8	571	---	---	53	4,007	12	33.39
GEORGIA-----	51	14,766	1	182	1	381	60	22,981	113	38,310	201	19.06
HAWAII-----	282	34,804	4	378	---	---	78	13,375	364	48,557	129	37.64
IDaho-----	10	4,131	2	1,244	---	---	11	4,844	23	10,219	13	78.61
ILLINOIS-----	436	35,100	35	2,060	11	1,079	4	769	486	39,008	142	27.47
INDIANA-----	1,137	62,055	208	9,046	---	---	110	5,549	1,455	76,690	234	32.77
IOWA-----	843	49,839	239	11,682	10	480	---	---	1,092	62,001	209	29.67
KANSAS-----	1,594	73,048	760	28,103	17	1,634	7	280	2,378	103,065	392	26.29
KENTUCKY-----	706	44,412	109	5,097	---	---	6	1,270	821	50,779	141	36.01
LOUISIANA-----	459	27,967	52	4,050	---	---	59	4,086	570	36,103	280	12.89
MAINE-----	321	32,707	1	56	---	---	47	3,985	369	36,748	135	27.22
MARYLAND-----	377	21,127	38	1,426	1	83	14	2,046	430	24,682	58	42.56
MASSACHUSETTS-----	604	51,057	42	2,103	9	968	5	328	660	54,456	140	38.90
MICHIGAN-----	304	19,313	24	819	---	---	6	731	334	20,863	53	39.36
MINNESOTA-----	1,288	95,060	654	33,972	---	---	107	8,413	2,049	137,445	405	33.94
MISSISSIPPI-----	3,484	159,660	2,075	74,341	35	1,615	3	527	5,597	236,143	880	26.83
MISSOURI-----	252	23,232	20	1,736	---	---	3	290	275	25,258	115	21.96
MONTANA-----	653	42,339	182	9,871	---	---	---	---	835	52,210	310	16.84
NEBRASKA-----	68	5,230	8	1,003	---	---	---	---	76	6,233	27	23.09
NEVADA-----	412	25,765	56	3,058	1	97	1	56	470	28,976	138	21.00
NEW HAMPSHIRE-----	41	8,454	3	1,306	---	---	---	---	44	9,760	14	69.71
NEW JERSEY-----	193	11,258	36	1,292	---	---	11	898	240	13,448	31	43.38
NEW MEXICO-----	215	15,960	11	461	---	---	---	---	226	16,421	47	34.94
NEW YORK-----	44	18,655	2	143	---	---	4	990	50	19,788	31	63.83
NORTH CAROLINA-----	3,137	198,322	1,166	52,149	1,147	66,311	205	17,176	5,655	333,958	913	36.58
NORTH DAKOTA-----	636	62,559	31	2,021	---	---	30	2,612	697	67,192	154	43.63
OHIO-----	102	5,871	14	1,106	---	---	16	763	132	7,740	113	6.85
OKLAHOMA-----	1,589	92,200	813	36,819	19	1,209	---	---	2,421	130,228	398	32.72
OREGON-----	346	25,971	26	1,204	---	---	4	576	376	27,751	116	23.92
PENNSYLVANIA-----	323	34,580	28	1,298	---	---	15	1,490	366	37,368	91	41.06
PUERTO RICO-----	3,288	180,512	749	30,647	945	48,853	---	---	4,982	260,012	706	36.83
RHODE ISLAND-----	85	19,995	---	---	---	---	12	2,641	97	22,636	---	---
SOUTH CAROLINA-----	23	1,346	---	---	---	---	---	---	23	1,346	5	26.92
SOUTH DAKOTA-----	237	30,380	10	1,178	---	---	8	537	255	32,095	58	55.34
TENNESSEE-----	196	10,928	259	11,303	---	---	16	1,248	471	23,479	162	14.49
TEXAS-----	533	45,402	---	---	---	---	47	4,087	580	49,489	211	23.45
UTAH 4/-----	395	46,118	57	7,925	---	---	13	1,109	465	55,152	318	17.34
VERMONT-----	326	31,624	16	784	---	---	12	1,528	354	34,236	79	43.33
VIRGINIA-----	787	45,761	336	16,049	61	3,677	3	470	1,187	65,957	195	33.82
WASHINGTON-----	873	79,019	42	2,762	---	---	18	416	933	82,197	165	49.82
WEST VIRGINIA-----	640	72,775	55	3,707	10	1,497	37	4,993	742	82,972	181	45.84
WISCONSIN-----	181	12,903	8	293	---	---	---	---	189	13,196	38	34.73
WYOMING-----	4,101	219,818	9,387	365,087	670	33,500	22	968	14,180	619,373	1,800	34.41
THE NATIONAL COOPERATIVE DHI PROGRAM-----	34	3,044	---	---	---	---	---	---	34	3,044	11	27.67
OTHER TESTING 5/-----	33,755	2,581,164	17,703	742,348	2,945	161,955	1,256	205,897	55,659	3,691,364	11,031	33.46
TOTAL-----									836	32,491	11,031	2.95
									56,495	3,723,855	11,031	36.41

1/ DASHES INDICATE PLAN IS NOT IN OPERATION IN STATE OR DATA UNAVAILABLE OR NOT REPORTED.

2/ UNOFFICIAL PLANS OPERATING UNDER THE AUSPICES OF THE NCDHIP. THESE PLANS ARE DETAILED IN TABLES 7 AND 8.

3/ PRELIMINARY FIGURES FOR JANUARY 1, 1977. NUMBERS OF MILK COWS AND HEIFERS THAT HAVE CALVED, EXCLUDING HEIFERS NOT YET FRESH; ESTIMATED BY THE STATISTICAL REPORTING SERVICE (USDA) IN "CATTLE", FEBRUARY 1977.

4/ BASED ON LAST REPORT AVAILABLE.

5/ THE FOLLOWING NUMBER OF HERDS AND COWS ARE ON OTHER TESTING PLANS NOT INCLUDED IN THE NCDHIP, SUCH AS VOCATIONAL AGRICULTURE AND PRIVATE, BY STATE: NORTH DAKOTA, 5 HERDS, 200 COWS; PUERTO RICO, 38 HERDS, 7,524 COWS; WISCONSIN, 793 HERDS, 24,767 COWS.

TABLE 4.--OFFICIAL DHI AND DHIR RECORDKEEPING IN THE UNITED STATES, JANUARY 1, 1977

STATE	HERDS	CCWS	CHANGE FROM 1/1/76	COWS PER HERD	U.S. MILK COWS 1/	PCT. OF U.S. COWS
	NO.	NO.	NO.	NO.	THOU.	
ALABAMA-----	228	27,770	+143	121.8	87	31.92
ALASKA-----	1	64	-3	64.0	1.5	4.27
ARIZONA-----	98	36,313	+4,493	370.5	68	53.40
ARKANSAS-----	121	7,542	+512	62.3	90	83.80
CALIFORNIA-----	1,128	362,815	+9,201	322.5	809	44.97
COLORADO-----	224	23,287	-498	104.0	71	32.80
CONNECTICUT-----	304	23,530	+313	77.4	53	44.40
DELAWARE-----	45	3,436	+265	76.4	12	28.63
FLORIDA-----	51	14,766	-1,051	289.5	201	7.35
GEORGIA-----	282	34,804	+2,173	123.4	129	26.98
HAWAII-----	10	4,131	+137	413.1	13	31.78
IDaho-----	436	35,100	+3,180	80.5	142	24.72
ILLINOIS-----	1,137	62,095	+2,671	54.6	234	26.54
INDIANA-----	843	49,839	+3,082	59.1	209	23.85
IOWA-----	1,594	73,048	+4,237	45.8	392	18.63
KANSAS-----	706	44,412	+462	62.9	141	31.50
KENTUCKY-----	459	27,967	+3,118	60.9	280	9.99
LOUISIANA-----	321	32,707	+3,337	101.9	135	24.23
MAINE-----	377	21,127	+511	56.0	58	36.43
MARYLAND-----	604	51,057	+2,596	84.3	140	36.47
MASSACHUSETTS-----	304	19,313	+1,125	63.5	53	36.44
MICHIGAN-----	1,288	95,060	+5,652	73.8	405	23.47
MINNESOTA-----	3,484	159,660	+7,243	45.8	880	18.14
MISSISSIPPI-----	252	23,232	+1,454	92.2	115	20.20
MISSOURI-----	653	42,339	+2,360	64.8	310	13.66
MONTANA-----	68	5,230	-574	76.9	27	19.37
NEBRASKA-----	412	25,765	+1,323	62.5	138	18.67
NEVADA-----	41	8,454	+1,758	206.2	14	60.39
NEW HAMPSHIRE-----	193	11,258	-27	58.3	31	36.32
NEW JERSEY-----	215	15,960	-385	74.2	47	33.96
NEW MEXICO-----	44	18,655	+3,504	424.0	31	60.18
NEW YORK-----	3,137	198,322	+8,065	63.2	913	21.72
NORTH CAROLINA-----	636	62,559	+4,363	98.4	154	40.62
NORTH DAKOTA-----	102	5,871	-402	57.6	113	5.20
OHIO-----	1,589	92,200	+5,358	58.0	398	23.17
OKLAHOMA-----	346	25,971	+1,933	75.1	116	22.39
OREGON-----	323	34,580	-1,095	107.1	91	38.00
PENNSYLVANIA-----	3,288	180,512	+10,789	54.9	706	25.57
PUERTO RICO-----	85	19,995	+2,264	235.2	---	---
RHODE ISLAND-----	23	1,346	+308	58.5	5	26.92
SOUTH CAROLINA-----	237	30,380	+628	128.2	58	52.38
SOUTH DAKOTA-----	196	10,528	+1,180	55.8	162	6.75
TENNESSEE-----	533	45,402	+5,123	85.2	211	21.52
TEXAS-----	395	46,118	+8,591	116.8	318	14.50
UTAH 2/-----	326	31,924	0	97.9	79	40.41
VERMONT-----	787	45,761	+4,128	58.1	195	23.47
VIRGINIA-----	873	79,019	+3,245	90.5	165	47.89
WASHINGTON-----	640	72,775	+4,498	113.7	181	40.21
WEST VIRGINIA-----	181	12,903	+361	71.3	38	33.96
WISCONSIN-----	4,101	219,818	+21,011	53.6	1,800	12.21
WYOMING-----	34	3,044	+139	89.5	11	27.67
UNITED STATES-----	33,755	2,581,164	+142,799	76.5	11,031	23.40

1/ PRELIMINARY FIGURES FOR JANUARY 1, 1977. NUMBERS OF MILK COWS AND HEIFERS THAT HAVE CALVED, EXCLUDING HEIFERS NOT YET FRESH; ESTIMATED BY THE STATISTICAL REPORTING SERVICE (USDA) IN 'CATTLE', FEBRUARY 1977.
 DASHES INDICATE STATE COW NUMBERS NOT AVAILABLE.
 2/ BASED ON THE LAST REPORT AVAILABLE.

TABLE A.---OWNER-SAMPLER RECORDKEEPING IN THE UNITED STATES, JANUARY 1, 1977

STATE	HERDS	COWS	CHANGE FROM 1/1/76	COWS PER HERD	U.S. MILK COWS 1/	PCT. OF U.S. COWS
	NO.	NO.	NO.	NO.	THOU.	
ALABAMA-----	22	3,454	-632	157.0	87	3.97
ALASKA-----	4	360	+178	90.0	1.5	24.00
ARIZONA-----	(2/)	(2/)	(2/)	(2/)	68	(2/)
ARKANSAS-----	46	4,039	-93	87.8	90	4.49
CALIFORNIA-----	36	4,096	-98	113.8	809	.51
COLORADO-----	12	1,622	+527	135.2	71	2.28
CONNECTICUT-----	24	1,016	-296	42.3	53	1.92
DELAWARE-----	(2/)	(2/)	(2/)	(2/)	12	(2/)
FLORIDA-----	1	182	-113	182.0	201	.09
GEORGIA-----	4	378	+285	94.5	129	.29
HAWAII-----	2	1,244	+262	622.0	13	9.57
IDAHO-----	35	2,060	-344	58.9	142	1.45
ILLINOIS-----	208	9,046	-227	43.5	234	3.87
INDIANA-----	239	11,682	-1,158	48.9	209	5.59
IOWA-----	760	28,103	-1,856	37.0	392	7.17
KANSAS-----	109	5,097	-303	46.8	141	3.61
KENTUCKY-----	52	4,050	+774	77.9	280	1.45
LOUISIANA-----	1	56	-25	56.0	135	.04
MAINE-----	38	1,426	-67	37.5	58	2.46
MARYLAND-----	42	2,103	-374	50.1	140	1.50
MASSACHUSETTS-----	24	819	+88	34.1	53	1.55
MICHIGAN-----	654	33,972	+15	51.9	405	8.39
MINNESOTA-----	2,075	74,341	+2,922	35.8	880	8.45
MISSISSIPPI-----	20	1,736	+199	86.8	115	1.51
MISSOURI-----	182	9,871	+726	54.2	310	3.18
MONTANA-----	8	1,003	-44	125.4	27	3.71
NEBRASKA-----	56	3,058	+108	54.6	138	2.22
NEVADA-----	3	1,306	-44	435.3	14	9.33
NEW HAMPSHIRE-----	36	1,292	+249	35.9	31	4.17
NEW JERSEY-----	11	461	+81	41.9	47	.98
NEW MEXICO-----	2	143	-73	71.5	31	.46
NEW YORK-----	1,166	52,149	-2,227	44.7	913	5.71
NORTH CAROLINA-----	31	2,021	+436	65.2	154	1.31
NORTH DAKOTA-----	14	1,106	-9	79.0	113	.98
OHIO-----	813	36,819	+3,259	45.3	398	9.25
OKLAHOMA-----	26	1,204	+296	46.3	116	1.04
OREGON-----	28	1,298	+148	46.4	91	1.43
PENNSYLVANIA-----	749	30,647	-6,075	40.9	706	4.34
PUEERTO RICO-----	(2/)	(2/)	(2/)	(2/)	---	(2/)
RHODE ISLAND-----	(2/)	(2/)	(2/)	(2/)	5	(2/)
SOUTH CAROLINA-----	10	1,178	+396	117.8	58	2.03
SOUTH DAKOTA-----	259	11,303	-455	43.6	162	6.98
TENNESSEE-----	(2/)	(2/)	(2/)	(2/)	211	(2/)
TEXAS-----	57	7,925	+3,350	139.0	318	2.49
UTAH 2/-----	16	784	0	49.0	79	.99
VERMONT-----	336	16,049	-330	47.8	195	8.23
VIRGINIA-----	42	2,762	-588	65.8	165	1.67
WASHINGTON-----	55	3,707	+586	67.4	181	2.05
WEST VIRGINIA-----	8	293	+62	146.5	38	.77
WISCONSIN-----	9,387	365,087	+16,279	38.9	1,800	20.28
WYOMING-----	(2/)	(2/)	(2/)	(2/)	11	(2/)
UNITED STATES-----	17,703	742,348	+15,738	41.9	11,031	6.73

1/ PRELIMINARY FIGURES FOR JANUARY 1, 1977, NUMBERS OF MILK COWS AND HEIFERS THAT HAVE CALVED, EXCLUDING HEIFERS NOT YET FRESH; ESTIMATED BY THE STATISTICAL REPORTING SERVICE (USDA) IN 'CATTLE', FEBRUARY 1977.
 DASHES INDICATE STATE COW NUMBERS NOT AVAILABLE.
 2/ NO PARTICIPATION IN OWNER-SAMPLER TESTING REPORTED.
 3/ BASED ON THE LAST REPORT AVAILABLE.

TABLE 7.—ALTERNATE AM-PM, COMMERCIAL, AND WEIGH-A-DAY-A-MONTH RECORDKEEPING IN THE UNITED STATES, JANUARY 1, 1977

STATE	HERDS NO.	COWS NO.	CHANGE FROM 1/1/76 NO.	COWS PER HERD NO.	U.S. MILK COWS 1/ THOU.	PCT. OF U.S. COWS
<u>ALTERNATE AM-PM</u>						
DELAWARE-----	8	571	-185	71.4	12	4.76
FLORIDA-----	1	381	+10	381.0	201	.19
IDAHO-----	11	1,079	-596	98.1	142	.76
INDIANA-----	10	480	+480	48.0	209	.23
IOWA-----	17	1,634	+1,463	96.1	392	.42
MAINE-----	1	83	+83	83.0	58	.14
MARYLAND-----	9	968	+968	107.6	140	.69
MINNESOTA-----	35	1,615	+1,203	46.1	880	.18
NEBRASKA-----	1	97	+2	97.0	138	.07
NEW YORK----- (DHI-AP)	998	59,259	+15,735	59.4	913	6.49
NEW YORK----- (OS-AP)	149	7,052	+52	47.3	913	.77
OHIO-----	19	1,209	-72	63.6	398	.30
PENNSYLVANIA-----	797	42,785	+1,062	53.7	706	6.06
PENNSYLVANIA----- (NS)	148	6,068	+6,068	41.0	706	.86
VERMONT-----	47	2,879	+739	61.3	195	1.48
VERMONT----- (NS)	14	798	-13	57.0	195	.41
WASHINGTON-----	10	1,497	+87	149.7	181	.83
WISCONSIN-----	670	33,500	+11,279	50.0	1,800	1.86
UNITED STATES-----	2,945	161,955	+38,365	55.0	11,031	1.47
<u>COMMERCIAL</u>						
ARIZONA-----	1	898	+898	898.0	68	1.32
CALIFORNIA-----	228	87,649	+7,994	384.4	809	10.96
COLORADO-----	12	2,284	+290	190.3	71	3.22
IDAHO-----	4	769	-73	192.3	142	.54
MARYLAND-----	0	0	-840	0.0	140	0.0
NEW MEXICO-----	4	990	+990	247.5	31	.70
OREGON-----	10	1,040	+1,040	104.0	91	1.14
UTAH 2/-----	9	1,333	0	148.1	79	1.69
WASHINGTON-----	35	4,553	-1,522	130.1	181	2.52
UNITED STATES-----	303	99,516	+8,777	328.4	11,031	.90
<u>WEIGH-A-DAY-A-MONTH</u>						
ALASKA-----	1	49	+49	49.0	1.5	3.27
ARIZONA-----	4	1,306	+1,306	326.5	68	1.92
COLORADO-----	5	477	+302	95.4	71	.67
GEORGIA-----	47	8,053	-886	171.3	129	6.24
HAWAII-----	11	4,844	-837	440.4	13	37.26
IDAHO-----	0	0	-206	0.0	142	0.0
ILLINOIS-----	110	5,549	-271	50.4	234	2.37
IOWA-----	0	0	-225	0.0	392	0.0
KENTUCKY-----	4	196	-54	49.0	280	.07
LOUISIANA-----	47	3,985	-366	84.8	135	2.95
MARYLAND-----	5	328	+180	66.0	140	.23
MISSISSIPPI-----	0	0	-590	0.0	115	0.0
NEBRASKA-----	0	0	-165	0.0	138	0.0
NEW HAMPSHIRE-----	6	424	+24	70.7	31	1.37
NORTH CAROLINA-----	22	1,489	+102	67.7	154	.97
NORTH DAKOTA-----	16	763	+120	47.7	113	.68
OREGON-----	0	0	-195	0.0	91	0.0
PUEERTO RICO-----	12	2,641	-1,066	220.1	58	.93
SOUTH CAROLINA-----	8	537	-64	67.1	211	1.94
TENNESSEE-----	47	4,087	+316	87.0	211	1.94
TEXAS-----	11	1,060	-1,351	96.4	318	.33
VIRGINIA-----	1	94	-8	94.0	165	.06
UTAH 2/-----	3	195	0	65.0	79	.25
WEST VIRGINIA-----	0	0	-423	0.0	38	0.0
UNITED STATES-----	360	36,077	-4,308	100.2	11,031	.33
UNITED STATES THREE PLANS TOTAL	3,608	257,548	+42,834	82.5	11,031	2.70

1/ PRELIMINARY FIGURES FOR JANUARY 1, 1977, NUMBERS OF MILK COWS AND HEIFERS THAT HAVE CALVED, EXCLUDING HEIFERS NOT YET FRESH; ESTIMATED BY THE STATISTICAL REPORTING SERVICE (USDA) IN 'CATTLE', FEBRUARY 1977.
 CASHES INDICATE STATE COW NUMBERS NOT AVAILABLE.
 2/ BASED ON THE LAST REPORT AVAILABLE.

TABLE 8.--MILK-ONLY-RECORD AND OTHER UNOFFICIAL RECORDKEEPING IN THE UNITED STATES, JANUARY 1, 1977

STATE	PLAN 1/	HERDS NO.	COWS NO.	CHANGE FROM 1/1/76 NO.	COWS PER HERD NO.	U.S. MILK COWS 2/ THOU.	PCT. OF U.S. COWS
MILK-ONLY-RECORD							
ARKANSAS-----	MOR-----	1	56	+56	56.0	90	0.06
CONNECTICUT-----	MOR-----	10	1,146	+54	114.6	53	2.16
FLORIDA-----	MOR-----	55	19,590	+3,322	356.2	201	9.75
GEORGIA-----	MOR-----	31	5,322	+1,254	171.7	129	4.13
IOWA-----	MOR-----	7	280	+280	40.0	392	.07
KANSAS-----	MOR-----	6	1,270	+90	211.7	141	.90
MAINE-----	MOR-----	14	2,046	+2,046	146.1	58	3.53
MASSACHUSETTS-----	MOR-----	6	731	-116	121.8	53	1.38
MICHIGAN-----	MOR-----	58	5,873	+1,612	101.3	405	1.45
MINNESOTA-----	MOR-----	3	527	+305	175.7	880	.06
NEBRASKA-----	MOR-----	1	56	-3	56.0	138	.04
NEW HAMPSHIRE-----	MOR-----	5	474	-175	94.8	31	1.53
NEW JERSEY-----	OS-MOR-----	0	0	-145	0.0	47	0.0
NEW YORK-----	MOR-----	205	17,176	+1,462	83.8	913	1.88
NORTH CAROLINA-----	MOR-----	8	1,123	-250	140.4	154	.73
NORTH DAKOTA-----	MILK ONLY-----	0	0	-37	0.0	113	0.0
OKLAHOMA-----	MOR-----	4	576	+36	144.0	116	.50
SOUTH DAKOTA-----	MOR-----	16	1,248	+199	78.0	162	.77
VERMONT-----	MOR-----	2	193	+65	96.5	195	.10
WASHINGTON-----	MOR-----	2	440	+440	220.0	181	.24
WISCONSIN-----	MOR-----	22	968	+141	44.0	1,803	.05
UNITED STATES-----		456	59,095	+10,636	129.6	11,031	.54
ALL OTHER							
ARKANSAS-----	(UNSPECIFIED)-----	0	0	-351	0.0	90	0.0
FLORIDA-----	UNSUPERVISED, UNAPPROVED METERS-----	5	3,391	-305	678.2	201	1.69
KENTUCKY-----	BASIC PRODUCTION AND MANAGEMENT-----	55	3,890	+136	70.7	280	1.39
MAINE-----	(UNSPECIFIED)-----	0	0	-1,932	0.0	58	0.0
MICHIGAN-----	TMT-----	49	2,540	+28	51.8	405	6.27
MISSISSIPPI-----	BASIC MANAGEMENT-----	3	290	+290	96.7	115	.25
OREGON-----	HAND CALCULATED/SUPER- VISED-----	5	450	-150	90.0	91	.49
OREGON-----	COM'L OR TESTER SAMPLED-----	0	0	-1,650	0.0	91	0.0
TEXAS-----	BASIC-----	2	49	+49	24.5	318	.02
VERMONT-----	OSMO-----	1	277	+277	277.0	195	.14
VIRGINIA-----	EXTENSION TECHNICIAN COMPUTED-M-O-R-----	17	322	+322	18.9	165	.20
UNITED STATES-----		137	11,209	-3,286	89.2	11,031	.10
TOTAL FOR MILK-ONLY-RECORD AND OTHER UNOFFICIAL PLANS-----		593	70,304	+7,350	118.1	11,031	.64

1/ MOR, OS-MOR, AND MILK ONLY ARE MILK-ONLY-RECORD TESTING; TMT IS TRI-MONTHLY TESTING;
OSMO IS OWNER-SAMPLER-MILK-ONLY RECORD TESTING.

2/ PRELIMINARY FIGURES FOR JANUARY 1, 1977, NUMBERS OF MILK COWS AND HEIFERS THAT HAVE CALVED, EXCLUDING HEIFERS NOT YET FRESH; ESTIMATED BY THE STATISTICAL REPORTING SERVICE (USDA) IN 'CATTLE', FEBRUARY 1977.

TABLE 10.--ENROLLMENT IN THE OWNER-SAMPLER PLAN IN THE UNITED STATES, JANUARY 1, 1956-77 1/ 2/ 3/

YEAR	HERDS EN- ROLLED	COWS EN- ROLLED	COWS PER HERD	PCT. OF U.S. COWS	HERDS REPORTED	COWS REPORTED	AVERAGE PRODUCTION		
							MILK	FAT	FAT
	NO.	NO.	NO.		NO.	NO.	LB.	PCT.	LB.
1956-----	17,110	374,479	21.9	1.78	---	---	---	---	---
1957-----	20,778	405,090	19.5	1.98	---	---	---	---	---
1958-----	21,269	490,001	23.0	2.48	---	---	---	---	---
1959-----	22,807	549,916	24.1	2.94	---	---	---	---	---
1960-----	24,274	615,899	25.4	3.44	---	---	---	---	---
1961-----	24,498	655,885	26.8	3.74	---	---	---	---	---
1962-----	24,954	698,302	28.0	4.05	---	---	---	---	---
1963-----	25,376	726,478	28.6	4.31	14,761	423,545	10,606	3.73	396
1964-----	25,598	752,229	29.4	4.63	13,574	385,493	10,885	3.71	404
1965-----	26,604	818,406	30.8	5.22	18,409	559,698	11,402	3.71	423
1966-----	26,259	839,838	32.0	5.62	19,172	598,133	11,472	3.70	425
1967-----	25,439	825,127	32.4	5.98	17,912	575,816	11,607	3.72	432
1968-----	25,143	847,485	33.7	6.39	17,318	592,647	11,847	3.72	441
1969-----	24,359	842,330	34.6	6.56	17,908	614,939	11,932	3.72	444
1970-----	23,281	839,343	36.1	6.67	16,971	611,819	12,185	3.72	453
1971-----	22,581	836,751	37.1	6.74	16,569	612,080	12,413	3.71	460
1972-----	21,345	805,555	37.7	6.56	16,107	618,088	12,544	3.74	466
1973-----	20,895	806,270	38.6	6.92	16,183	631,269	12,488	3.75	468
1974-----	19,738	785,195	39.7	6.94	16,037	639,964	12,353	3.75	463
1975-----	18,112	749,807	41.4	6.69	14,704	610,910	12,503	3.80	475
1976-----	17,299	726,610	42.0	6.55	16,784	753,089	13,104	3.79	497
1977-----	17,703	742,348	41.9	6.73	---	---	---	---	---

1/ DASHES INDICATE DATA NOT TABULATED OR AVAILABLE.

2/ TABULATION OF THE OWNER-SAMPLER PLAN BEGAN IN 1956.

3/ BEGINNING IN 1976 HERDS, COWS, AND AVERAGE PRODUCTION ARE REPORTED FOR THE FOLLOWING UNOFFICIAL PLANS: OWNER-SAMPLER, AM-PM, OWNER-SAMPLER AM-PM, COMMERCIAL, BIMONTHLY, AND TRIMONTHLY.

TABLE 11.--ENROLLMENT IN OTHER UNOFFICIAL PLANS IN THE UNITED STATES, JANUARY 1, 1957-77 1/

YEAR	HERDS EN- ROLLED	COWS EN- ROLLED	COWS PER HERD	PCT. OF U.S. COWS	YEAR	HERDS EN- ROLLED	COWS EN- ROLLED	COWS PER HERD	PCT. OF U.S. COWS
	NO.	NO.	NO.			NO.	NO.	NO.	
1957-----	1,174	21,297	18.1	0.10	1973-----	2,225	172,610	77.6	1.48
1958-----	3,629	79,489	21.9	.40	1974-----	2,675	208,962	78.1	1.85
1959-----	2,998	74,814	25.0	.40	1975-----	3,264	292,834	89.7	2.61
1960-----	3,119	76,392	24.5	.43	1976-----	3,583	317,668	88.7	2.86
1961-----	2,363	70,847	30.0	.40	1977-----	4,201	367,852	87.6	3.33
1962-----	1,936	70,617	36.5	.41					
1963-----	1,500	50,492	33.7	.30					
1964-----	1,396	60,149	43.1	.37					
1965-----	1,229	56,570	46.0	.36					
1966-----	1,160	56,957	49.1	.38					
1967-----	1,001	53,429	53.4	.39					
1968-----	867	48,853	56.3	.37					
1969-----	708	44,131	62.3	.34					
1970-----	2,040	158,789	77.8	1.26					
1971-----	1,935	136,304	70.4	1.10					
1972-----	2,108	156,593	74.3	1.28					

1/ TABULATION OF THE WEIGH-A-DAY-A-MONTH PLAN BEGAN IN 1957; TABULATION OF OTHER UNOFFICIAL PLANS OPERATING UNDER AUSPICES OF THE NCDHIP BEGAN IN 1970. THE COUNTS INCLUDE DATA RECEIVED FOR ALTERNATE AM-PM, COMMERCIAL, WADAM, MILK-ONLY RECORD, AND ALL OTHER UNOFFICIAL PLANS.

TABLE 12.--ASSOCIATIONS BY STATES WITH 40 PERCENT OR MORE COWS INCLUDED IN THE NATIONAL COOPERATIVE DAIRY HERD IMPROVEMENT PROGRAM, JANUARY 1, 1977 (CONTINUED) 1/

STATE AND ASSOCIATION	COWS ENROLLED IN NCDHIP	STATE AND ASSOCIATION	COWS ENROLLED IN NCDHIP	STATE AND ASSOCIATION	COWS ENROLLED IN NCDHIP
	PCT		PCT		PCT
LOUISIANA (CONTINUED)					
ACADIA-----	51				
BOSSIER-----	51				
RICHLAND-----	46				
ST. LANDRY-----	41				
MAINE					
OXFORD-----	66				
CUMBERLAND-----	60				
ANDROSCOGGIN-----	51				
SOMERSET-----	44				
WALDO-----	43				
YORK-----	42				
MARYLAND					
PRINCE GEORGE'S-----	100				
ANNE ARUNDEL-----	98				
DORCHESTER-----	89				
CECIL-----	57				
HOWARD-----	53				
MARVA ASS'N-----	51				
ALLEGANY-----	49				
HARFORD-----	49				
CARROLL-----	46				
KENT-----	45				
MONTGOMERY-----	45				
GARRETT-----	44				
QUEEN ANNES-----	43				
TALBOT-----	41				
MASSACHUSETTS					
FRANKLIN-----	46				
HAMPDEN-----	45				
BERKSHIRE-----	42				
MICHIGAN					
BARRY-----	54				
SHIAWASSEE-----	51				
ANTRIM-----	50				
CALHOUN-----	50				
GRAND TRAVERSE-----	48				
LENAWEE-----	47				
GRATIOT-----	46				
MISSAUKEE-----	45				
HILLSDALE-----	44				
KENT-----	43				
NEWAYGO-----	43				
ST. JOSEPH-----	43				
BRANCH-----	42				
INGHAM-----	42				
OCEANA-----	42				
CLINTON-----	41				
MINNESOTA					
RAMSEY-----	100				
FENNEPIN-----	57				
MARTIN-----	57				
OLMSTED-----	53				
WASHINGTON-----	47				
GOODHUE-----	46				
DAKOTA-----	42				
FARIBAULT-----	40				
MISSISSIPPI 2/					
HINDS-----	100				
LAMAR-----	98				
GEORGE-----	73				
RANKIN-----	56				
MARTIN-----	48				
MONTGOMERY-----	46				
PIKE-----	46				
MISSOURI					
CARTER-----	63				
JACKSON-----	59				
LINCOLN-----	50				
ST. FRANCOIS-----	50				
JOHNSON-----	47				
BATES-----	45				
CAPE GIRARDEAU-----	41				
LAWRENCE-----	41				
MONTANA					
LEWIS & CLARK-----	81				
FLATHEAD-----	63				
GALLATIN-----	52				
YELLOWSTONE-----	40				
NEBRASKA					
KEITH-----	59				
JOHNSON-----	56				
DOUGLAS-----	52				
CASS-----	51				
JEFFERSON-----	48				
THAYER-----	46				
CODGE-----	45				
BOX BUTTE-----	43				
GAGE-----	43				
RICHARDSON-----	41				
NEVADA					
CLARK-----	95				
CHURCHILL-----	56				
DOUGLAS-----	55				
NEW HAMPSHIRE					
SULLIVAN-----	60				
STRAFFORD-----	48				
GRAFTON-----	47				
MERRIMACK-BELKNAP-----	46				
CHESHIRE-----	43				
ROCKINGHAM-----	42				
HILLSBOROUGH-----	41				
NEW JERSEY 2/					
BURLINGTON-MONMOUTH-----	48				
NEW MEXICO					
CHAVES-----	95				
DONA ANA-----	95				
OTERO-----	86				
SIERRA-----	74				
VALENCIA-----	73				
BERNALILLO-----	68				
NEW YORK					
YATES-----	70				
COLUMBIA-----	64				
DUTCHESS-----	62				
SENECA-----	59				
TOMPKINS-----	58				
TIOGA-----	56				
ONTARIO-----	55				
SCHOHARIE-----	52				
DELAWARE-----	51				
LIVINGSTON-----	51				
WAYNE-----	50				
ONONDAGA-----	49				
CAYUGA-----	47				
MONTGOMERY-FULTON-----	45				
CHENANGO-----	44				
ORLEANS-----	44				
SCHUYLER-----	44				
CHAUTAUQUA-----	43				
CORTLAND-----	43				
NEW YORK (CONTINUED)					
MONROE-----	43				
MADISON-----	40				
NORTH CAROLINA					
FRANKLIN-----	100				
Hoke-----	100				
LEE-----	100				
NASH-----	100				
ONSLOW-----	100				
SWAIN-----	100				
PITT-----	95				
LENOIR-----	87				
ORANGE-----	84				
WAKE-----	84				
COLUMBUS-----	81				
STOKES-----	80				
CUMBERLAND-----	78				
HENDERSON-----	78				
CASWELL-----	75				
BUNCOMBE-----	73				
BLADEN-----	72				
ALAMANCE-----	71				
GUILFORD-----	68				
RANDOLPH-----	68				
WARREN-----	65				
DURHAM-----	64				
ROCKINGHAM-----	64				
RUTHERFORD-----	61				
YADKIN-----	61				
MONTGOMERY-----	60				
CHATHAM-----	59				
CLEVELAND-----	59				
GASTON-----	59				
HYDE-----	59				
SURRY-----	59				
DAVIDSON-----	58				
WILSON-----	54				
HAYWOOD-----	52				
PERSON-----	52				
MECKLENBURG-----	51				
LINCOLN-----	49				
MADISON-----	48				
FORSYTH-----	47				
WAYNE-----	47				
HARNETT-----	46				
HALIFAX-----	45				
GRANVILLE-----	44				
IREDELL-----	44				
STANLY-----	44				
BEAUFORT-----	44				
CATAWBA-----	43				
DAVIE-----	42				
EDGECOMBE-----	41				
UNION-----	40				
OHIO					
MARION-----	58				
MADISON-----	55				
LORAIN-----	54				
WAYNE-----	53				
COLUMBIANA-----	51				
ASHLAND-----	49				
ALLEN-----	48				
PAULDING-----	48				
WARREN-----	48				
FAYETTE-----	45				
FULTON-----	45				
RICHLAND-----	45				
TUSCARAWAS-----	45				
HURON-----	44				
VAN WERT-----	44				
ERIE-----	43				
HAMILTON-----	43				
PORTAGE-----	42				
LOGAN-----	41				
WILLIAMS-----	41				
AUGLAIZE-----	40				
HANCOCK-----	40				
PICKAWAY-----	40				

SEE FOOTNOTES AT END OF TABLE.

TABLE 12.—NUMBER OF COWS WITH 40 PERCENT OR MORE COWS INCLUDED IN THE NATIONAL COOPERATIVE DAIRY HERD IMPROVEMENT PROGRAM, JANUARY 1, 1977 (CONTINUED) 17

STATE AND ASSOCIATION	COWS ENROLLED IN NCDHIP	STATE AND ASSOCIATION	COWS ENROLLED IN NCDHIP	STATE AND ASSOCIATION	COWS ENROLLED IN NCDHIP
PCT		PCT		PCT	
OKLAHOMA 27		SOUTH CAROLINA (CONTINUED)		VIRGINIA (CONTINUED)	
ATOKA-----	100	MARLBORO-----	44	BRUNSWICK-----	59
PITTSBURG-----	100	AIKEN-----	43	SMYTH-----	59
CRANT-----	80	YORK-----	42	FAUQUIER-----	58
CARTER-----	66			GOOCHLAND-----	57
ALFAI-----	55			NOTTOWAY-----	57
CUSTER-----	50	SOUTH DAKOTA		CULPEPER-----	56
GREER-----	50			WASHINGTON-----	56
LINCOLN-----	50	RUTTE-----	59	WYTHE-----	56
MCINTOSH-----	50	JACKSON-----	56	MIDDLESEX-----	55
WASHINGTON-----	50	LAWRENCE-----	42	LOUDOUN-----	53
WOODWARD-----	50	PENNINGTON-----	42	MECKLENBURG-----	52
ROGER MILLS-----	48			AMHERST-----	51
KAY-----	44			CITY OF VA. BEACH-----	51
TULSA-----	41	TEXAS		MONTGOMERY-----	49
OSAGE-----	41			KING WILLIAM-----	48
ROGERS-----	40	CAMERON-----	100	ROCKINGHAM-----	48
TEXAS-----	40	HIDALGO-----	70	ALBEMARLE-----	47
		MILAM-----	66	FLUVANNA-----	46
OREGON		WICHITA-----	65	RICHMOND-----	46
		KENDALL-----	57	BEDFORD-----	45
JOSEPHINE-----	53	RURLISON-----	52	APPOMATTOX-----	44
POLE-----	75	DEAF SMITH-----	52	PITTSYLVANIA-----	44
BENTON-----	65	COLLIN-----	50	BOTETOURT-----	41
KLAMATH-----	60	VICTORIA-----	48		
WASHINGTON-----	60	ARCHER-----	40	WASHINGTON	
YAMHILL-----	60	WILLIAMSON-----	40		
LANE-----	55			CLALLAM-----	80
MARION-----	55	UTAH 27		KITTITAS-----	80
CLACKAMAS-----	50			WAHIAKUM-----	65
CLATSOP-----	50	SANPETE-----	80	CLARK-COWLITZ-----	62
UNION-----	50	UTAH-----	80	PIERCE-----	60
JACKSON-----	45	WEBER-----	72	SKAGIT-ISLAND-----	60
TILLAMOOK-----	45	SALT LAKE-----	70	MD COLUMBIA-----	58
LINN-----	40	DAVIS-----	65	SNODOMISH-----	55
MULNOMAH-----	40	SUMMIT-----	57	THURSTON-MASON-----	52
PENNSYLVANIA		WASATCH-----	56	GRAYS HARBOR-----	50
POTTER-----	47	BEAVER-----	54	PACIFIC-----	50
MONTGOMERY-PHILADELPHIA-----	41	MORGAN-----	52	SPOKANE-STEVENS-----	50
BLAIR-----	40	CACHE-----	47	KING-----	48
MONTICOMERY-----	37	EMERY-----	43	LEWIS-----	45
CENTRE-----	54	MILLARD-----	42	WHATCOM-----	41
FAIRFAX-----	53	VERMONT		COLUMBIA BASIN-----	40
WARREN-----	53				
LUTHER-----	49	BENNINGTON-----	58	WEST VIRGINIA	
CLINTON-----	47	WINDSOR-----	56	MASON-----	72
LANCASTER-----	47	CRANGE-----	46	JEFFERSON-----	71
BRADFORD-----	46	WASHINGTON-----	46	GREENBRIER-----	61
JUNIATA-----	44			MONROE-----	60
REDFORD-----	43	VIRGINIA		RANDOLPH-----	53
SOMERSET-----	43			PRESTON-----	48
MCKEAN-----	42	ISLE OF WIGHT-----	100		
PERRY-----	42	NELSON-----	100	WISCONSIN	
NORTHUMBERLAND-----	41	SUFFOLK-----	100		
CHESTER-DELAWARE-----	40	WESTMORELAND-----	100	FLORENCE-----	71
MIFLIN-----	40	KING GEORGE-----	99	KENOSHA-----	49
		WINNIDIE-----	97	MANITOWOC-----	49
SOUTH CAROLINA		CITY OF CHESAPEAKE-----	94	DOOR-----	45
CALHOUN-----	73	HANOVER-----	84	WINNEBAGO-----	44
CLARENDON-----	73	RICKSBIDGE-----	84	JACKSON-----	42
SALUDA-----	73	PATRICK-----	83	JEFFERSON-----	42
CRANFORD-----	72	FAIRFAX-----	77	ROCK-----	42
GREENWOOD-----	71	WADISON-----	77	WALWORTH-----	42
BAMBERG-----	69	PULASKI-----	75	ST. CROIX-----	41
GREENVILLE-----	69	CAMPBELL-----	74	SHEBOYGAN-----	41
NEWBERRY-----	69	GREENE-----	71	BARRON-----	40
SUMTER-----	67	JAMES CITY-----	71		
LAFAYETTE-----	65	AUGUSTA-----	70	WYOMING	
RICHLAND-----	64	CLARKE-----	68		
LEE-----	64	ORANGE-----	66	SHERIDAN-----	72
CARLINGTON-----	63	FRANKLIN-----	65	LARAMIE-----	71
LEXINGTON-----	57	HENRICO-----	64	ALBANY-----	55
ANDERSON-----	56	PONHATAN-----	64	PARK-----	47
JASPER-----	55	AMELIA-----	63		
FLORENCE-----	51	PRINCE WILLIAM-----	63		
HAMPTON-----	51	SCOTTHAMPTON-----	63		
ABBEVILLE-----	47	SHENANDOAH-----	61		
FATHEFIELD-----	47	SPOTSYLVANIA-----	61		

1/ ASSOCIATIONS MAY BE COUNTY, MULTICOUNTY, OR CITY UNITS.
2/ DATA ARE FROM JANUARY 1, 1974 PARTICIPATION REPORT.

TABLE 13.--EXTENSION DAIRYMEN ADVISING ON THE DAIRY HERD IMPROVEMENT PROGRAM IN EACH STATE AS OF JANUARY 1, 1977

ALABAMA	CHARLES D. GRIFFIN, DAIRY SCIENCE DEPT., AUBURN UNIVERSITY, AUBURN 36830.
ALASKA	ARTHUR L. BRUNDAGE, EXPERIMENT STATION RESEARCH STAFF, UNIVERSITY OF ALASKA, PALMER 99645.
ARIZONA	DENNIS V. ARMSTRONG, DEPT. OF DAIRY SCIENCE, UNIVERSITY OF ARIZONA, TUCSON 85721.
ARKANSAS	LANTIS RATCLIFF, ANIMAL INDUSTRY & VETERINARY SCIENCE DEPT., UNIVERSITY OF ARKANSAS, LITTLE ROCK 72203.
CALIFORNIA	FRANK D. MURRILL, EXTENSION SERVICE, UNIVERSITY OF CALIFORNIA, DAVIS 95616.
COLORADO	DAWSON C. JORDAN, ANIMAL SCIENCE DEPT., COLORADO STATE UNIVERSITY, FORT COLLINS 80521.
CONNECTICUT	ROBERT H. BENSON, ANIMAL INDUSTRIES DEPT., UNIVERSITY OF CONNECTICUT, STORRS 06268.
DELAWARE	W. R. HESSELTINE, ANIMAL AND POULTRY SCIENCE DEPT., UNIVERSITY OF DELAWARE, NEWARK 19711.
FLORIDA	DANIEL W. WEBB, DAIRY SCIENCE BLDG., UNIVERSITY OF FLORIDA, GAINESVILLE 32601.
GEORGIA	W. HARDY MCKINNEY, ANIMAL INDUSTRY DIVISION, UNIVERSITY OF GEORGIA, ATHENS 30601.
HAWAII	STEVEN E. OLBRICH, ANIMAL SCIENCE DEPT., UNIVERSITY OF HAWAII, HONOLULU 96822.
IDAHO	RICHARD H. ROSS, AGRICULTURAL SCIENCE BLDG., UNIVERSITY OF IDAHO, MOSCOW 83843.
ILLINOIS	GERHARD W. HARPESTAD, DAIRY SCIENCE DEPT., UNIVERSITY OF ILLINOIS, URBANA 61801.
INDIANA	WILLARD M. DILLON, DEPT. OF ANIMAL SCIENCES, PURDUE UNIVERSITY, LAFAYETTE 47907.
IOWA	DONALD E. VOELKER, ANIMAL & DAIRY SCIENCE DEPT., IOWA STATE UNIVERSITY, AMES 50010.
KANSAS	E. RALPH BONEWITZ, DAIRY SCIENCE DEPT., KANSAS STATE UNIVERSITY, MANHATTAN 66502.
KENTUCKY	KENNETH E. OLSON, DAIRY SCIENCE DEPT., UNIVERSITY OF KENTUCKY, LEXINGTON 40506.
LOUISIANA	JAMES F. BEATTY, LSU COOP. EXTENSION SERVICE, KNAPP HALL, UNIVERSITY STATION, BATON ROUGE 70803.
MAINE	CALVIN K. WALKER, ANIMAL SCIENCE DEPT., UNIVERSITY OF MAINE, ORONO 04473.
MARYLAND	J. LEE MAJESKIE, JULL HALL, DAIRY SCIENCE DEPT., UNIVERSITY OF MARYLAND, COLLEGE PARK 20742.
MASSACHUSETTS	SIDNEY J. LYFORD, JR., VETERINARY & ANIMAL SCIENCES DEPT., UNIVERSITY OF MASSACHUSETTS, AMHERST 01003.
MICHIGAN	MARTIN A. WILSON, DAIRY DEPT., MICHIGAN STATE UNIVERSITY, EAST LANSING 48823.
MINNESOTA	J. WILLIAM MUDGE, ANIMAL SCIENCE DEPT., UNIVERSITY OF MINNESOTA, ST. PAUL 55101.
MISSISSIPPI	GEORGE B. CRAIN, DAIRY SCIENCE DEPT., MISSISSIPPI STATE UNIVERSITY, STATE COLLEGE 39762.
MISSOURI	REX E. RICKETTS, DAIRY HUSBANDRY DEPT., UNIVERSITY OF MISSOURI, COLUMBIA 65201.
MONTANA	B. R. MOSS, DEPT. OF ANIMAL SCIENCE & RANGE MANAGEMENT, MONTANA STATE COLLEGE, BOZEMAN 59715.
NEBRASKA	PHILLIP H. COLE, ANIMAL SCIENCE DEPT., UNIVERSITY OF NEBRASKA, LINCOLN 68503.
NEVADA	ALFRED W. NORMAN, ANIMAL SCIENCE DEPT., UNIVERSITY OF NEVADA, RENO 89507.
NEW HAMPSHIRE	JOHN S. PIOWAR, ANIMAL SCIENCE DEPT., UNIVERSITY OF NEW HAMPSHIRE, DURHAM 03824.
NEW JERSEY	EDWARD T. OLESKIE, ANIMAL SCIENCE DEPT., RUTGERS UNIVERSITY, NEW BRUNSWICK 08903.
NEW MEXICO	J. BORDEN ELLS, DAIRY DEPT., NEW MEXICO STATE UNIVERSITY, LAS CRUCES 88001.
NEW YORK	HARRY R. AINSLIE, ANIMAL SCIENCE DEPT., CORNELL UNIVERSITY, ITHACA 14850.
NORTH CAROLINA	FRANK D. SARGENT, ANIMAL SCIENCE DEPT., NORTH CAROLINA STATE UNIVERSITY, RALEIGH 27607.
NORTH DAKOTA	GEORGE R. FISHER, DAIRY HUSBANDRY DEPT., NORTH DAKOTA STATE UNIVERSITY, FARGO 58102.
OHIO	ROBERT M. PORTER, DAIRY SCIENCE DEPT., OHIO STATE UNIVERSITY, COLUMBUS 43210.
OKLAHOMA	JACK D. STOUT, DEPT. OF DAIRYING, OKLAHOMA STATE UNIVERSITY, STILLWATER 74074.
OREGON	DONALD E. ANDERSON, 256 WARNER-MILNE RD., OREGON CITY 97045.
PENNSYLVANIA	HERBERT C. GILMORE, DAIRY SCIENCE DEPT., PENNSYLVANIA STATE UNIVERSITY, UNIVERSITY PARK 16802.
PUERTO RICO	J. L. VALE-SALINAS, AGR. EXTENSION SERVICE, BOX AR, UNIVERSITY OF PUERTO RICO, RIO PIEDRAS 00928.
RHODE ISLAND	JAMES W. COBBLE (ACTING), DAIRY SCIENCE DEPT., UNIVERSITY OF RHODE ISLAND, KINGSTON 02881.
SOUTH CAROLINA	GEORGE E. GRAMLING, DAIRY SCIENCE DEPT., CLEMSON UNIVERSITY, CLEMSON 29631.
SOUTH DAKOTA	MYERS OWENS, DAIRY SCIENCE DEPT., SOUTH DAKOTA STATE UNIVERSITY, BROOKINGS 57006.
TENNESSEE	V. D. PARSONS, DAIRY DEPT., UNIVERSITY OF TENNESSEE, P. O. BOX 1071, KNOXVILLE 37901.
TEXAS	MICHAEL A. TOMASZEWSKI, HERMAN HEEP BLDG. - RM. 110-C, TEXAS A & M UNIVERSITY, COLLEGE STATION 77843.
UTAH	WALLACE R. TAYLOR, DAIRY SCIENCE DEPT., UTAH STATE UNIVERSITY, LOGAN 84321.
VERMONT	WILLIAM P. LEAMY, ANIMAL & DAIRY SCIENCE DEPT., UNIVERSITY OF VERMONT, BURLINGTON 05401.
VIRGINIA	WILLIAM N. PATTERSON, DAIRY SCIENCE DEPT., VIRGINIA POLYTECHNIC INSTITUTE, BLACKSBURG 24061.
WASHINGTON	BILL F. KELSO, WESTERN WASHINGTON RESEARCH AND EXTENSION CENTER, WASH. STATE UNIV., PUYALLUP 98371.
WEST VIRGINIA	R. O. KELLEY, ANIMAL INDUSTRY & VETERINARY SCIENCE DEPT., WEST VIRGINIA UNIVERSITY, MORGANTOWN 26506.
WISCONSIN	EUGENE E. STARKEY, DAIRY SCIENCE DEPT., UNIVERSITY OF WISCONSIN, MADISON 53706.
WYOMING	BARRY J. STEEVENS, BOX 3354, UNIVERSITY STATION, LARAMIE 82071.
